Comparisons of Job Characteristics

Focus Occupation: Health and Safety Engineers, Except Mining Safety Engineers and Inspectors (17-2111)
Associated Occupation: Environmental Engineers (17-2081)

Compare Knowledge
Compare Skills
Compare Abilities
Compare Detailed Work Activities
Compare Tools and Technologies

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 89

Focus Occupation: Health and Safety Engineers, Except Mining Safety Engineers and Inspectors (17-2111)
Associated Occupation: Environmental Engineers (17-2081)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Engineering and Technology	5.7	21.7	18.9	<	Expanded education and/or training may be required
Design	5.2	17.2	15.9	0	Current knowledge level may be sufficient
Mathematics	9.2	16.3	15.1	0	Current knowledge level may be sufficient
Chemistry	4.8	15.8	13.0	<	Expanded education and/or training may be required
Physics	4.3	15.7	14.1	<	Expanded education and/or training may be required
Law and Government	5.9	13.6	12.4	0	Current knowledge level may be sufficient
Building and Construction	4.0	13.0	10.3	<	Expanded education and/or training may be required
Public Safety and Security	6.9	12.0	14.0	>	Current knowledge level is likely sufficient
Biology	3.7	10.0	6.2	<<	Extensive education and/or training may be required
Transportation	4.6	9.0	5.1	<<	Extensive education and/or training may be required
Geography	3.9	8.3	4.0	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 93

Focus Occupation: Health and Safety Engineers, Except Mining Safety Engineers and Inspectors (17-2111)
Associated Occupation: Environmental Engineers (17-2081)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Reading Comprehension	10.7	16.4	14.8	<	A higher skill level may be required
Critical Thinking	10.8	14.5	14.4	0	Current skill level may be sufficient
Complex Problem Solving	9.1	13.9	11.8	<	A higher skill level may be required
Judgment and Decision Making	9.4	13.9	12.0	<	A higher skill level may be required
Systems Analysis	6.5	13.1	10.6	<	A higher skill level may be required
Mathematics	6.2	12.3	8.6	<<	Extensive development of skills in this area may be required
Systems Evaluation	6.4	11.7	10.5	<	A higher skill level may be required
Science	4.5	11.4	12.4	0	Current skill level may be sufficient
Operations Analysis	5.0	11.0	11.0	0	Current skill level may be sufficient
Quality Control Analysis	5.9	10.4	9.7	0	Current skill level may be sufficient
Management of Financial Resources	3.3	7.2	4.0	<<	Extensive development of skills in this area may be required
Programming	2.2	5.6	3.5	<<	Extensive development of skills in this area may be required
Technology Design	2.6	5.5	5.8	0	Current skill level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities

Similarity of Focus Occupation to Associated Occupation: 97

Focus Occupation: Health and Safety Engineers, Except Mining Safety Engineers and Inspectors (17-2111)
Associated Occupation: Environmental Engineers (17-2081)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Problem Sensitivity	11.1	17.0	15.3	<	Some improvement in abilities may be required
Deductive Reasoning	10.6	16.2	14.1	<	Some improvement in abilities may be required
Oral Comprehension	12.5	16.1	14.6	<	Some improvement in abilities may be required
Written Comprehension	11.0	16.0	14.1	<	Some improvement in abilities may be required
Inductive Reasoning	10.2	15.4	14.3	0	Current ability level may be sufficient
Information Ordering	9.9	14.2	11.9	<	Some improvement in abilities may be required
Category Flexibility	9.0	13.6	11.0	<	Some improvement in abilities may be required
Flexibility of Closure	7.8	13.5	10.9	<	Some improvement in abilities may be required
Mathematical Reasoning	6.3	13.4	8.7	<<	Extensive improvement in abilities may be required
Perceptual Speed	7.4	11.9	9.4	<	Some improvement in abilities may be required
Speed of Closure	5.9	11.2	8.2	<<	Extensive improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 83

Focus Occupation: Health and Safety Engineers, Except Mining Safety Engineers and Inspectors (17-2111)
Associated Occupation: Environmental Engineers (17-2081)

Work Activities	Exclusivity of Activity
Adhere to safety procedures	12
Advise clients regarding engineering problems	67
Analyze engineering design problems	69
Analyze technical data, designs, or preliminary specifications	47
Collect scientific or technical data	30
Communicate technical information	4
Develop plans for programs or projects	31
Direct and coordinate activities of workers or staff	3
Evaluate engineering data	60
Examine engineering documents for completeness or accuracy	62
Explain complex mathematical information	30
Follow safe waste disposal procedures	50
Plan testing of engineering methods	72
Prepare safety reports	60
Prepare technical reports or related documentation	22
Read technical drawings	7
Resolve engineering or science problems	46
Test air quality, noise, temperature, or radiation	82
Test equipment as part of engineering projects or processes	67
Understand engineering data or reports	48
Use drafting or mechanical drawing techniques	50
Use government regulations	44
Use hazardous materials information	35
Use intuitive judgment for engineering analyses	72
Use mathematical or statistical methods to identify or analyze problems	30
Use pollution control techniques	62
Use scientific research methodology	21
Use technical regulations for engineering problems	61

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 68

Focus Occupation: Health and Safety Engineers, Except Mining Safety Engineers and Inspectors (17-2111)
Associated Occupation: Environmental Engineers (17-2081)

Tools and Technologies	Exclusivity
Business function specific software	1
Chemical evaluation instruments and supplies	10
Computer data input devices	2
Computers	1
Content authoring and editing software	1
Data management and query software	1
Development software	4
Electrical measuring and testing equipment	7
Electrochemical measuring instruments and accessories	9
Fluid mechanics equipment	11
Gas analyzers and monitors	10
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Laboratory enclosures and accessories	17
Laboratory furnaces and accessories	26
Laboratory ovens and accessories	15
Light and wave generating and measuring equipment	4
Liquid and gas flow measuring and observing instruments	15
Liquid and solid and elemental analyzers	19
Metals and metallurgy and structural materials testing instruments	15
Sampling equipment	12
Spectroscopic equipment	10
Temperature and heat measuring instruments	6

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.